Notice of Allowability	Application No.	Applicant(s)	
	10/829,613	BARSNESS ET AL.	
	Examiner	Art Unit	
	Srirama Channavajjala	2166	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☐ This communication is responsive to *2/1/07*.

2. ☒ The allowed claim(s) is/are *6,9-11,13,15,18,19,25,28-30,32,34,37,38 and 40-42 [re-numbered as: 1-19]*.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All b) ☐ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date *3/13/2007* .
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

DETAILED ACTION

1. Claims 6,9-11,13,15,18-19,25,28-30,32,34,37-38,40-42 are allowed

2. Examiner acknowledges applicant's amendment filed on 2/1/2007.

3. Claims 6-7,11,13-17,25-30,32—38,40-42 have been amended [2/1/2007].

4. Claims 1-5,12,20-24,31,39 have been canceled [2/1/2007].

Drawings

5. The Drawings filed on 4/22/2004 are acceptable for examination purpose

35 USC § 112

6. In view of applicant's amendment to the claims 1-42, the rejection under 35 USC 112 as set forth in the previous office action is hereby withdrawn.

35 USC § 101

7. In view of applicant's amendment to the claims 6,13,15,25,32,34,40-42, specification at page 10, paragraph [0042] [as given below,]the rejection under 35 USC 101 as set forth in the previous office action is hereby withdrawn.

Interview:

8. Applicant's Attorney Gero G. McClellan, Regd. No. 44,227 is thanked for the telephone interview on 13 March 2007. During that telephone interview Gero G. McClellan granted authorization to ***amend claims:*** ***6,11,13,15,25,30,32,34,40-42*** canceling claims: ***7-8,14,16-17,26-27,33,35-36*** amendment to the specification at page 10, paragraph [0042].

EXAMINER'S AMENDMENT

9. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Applicant's Attorney Gero G. McClellan, Regd. No. 44,227 on 13 March 2007.

The application has been amended as follows:

IN THE SPECIFICATION:

Please amend paragraph [0042] as follows:

[0042] One embodiment of the invention is implemented as a program product for use with a computer system. The program(s) of the program product defines functions of the embodiments (including the methods described herein) and can be contained on a variety of ~~signal-bearing~~ computer-readable storage media. Illustrative ~~signal-bearing~~ computer-readable storage media include, but are not limited to: (i) information permanently stored on non-writable storage media (e.g., read-only memory devices within a computer such as CD-ROM disks readable by a CD-ROM drive); and (ii) alterable information stored on writable storage media (e.g., floppy disks within a diskette drive or hard-disk drive)~~; or (iii) information conveyed to a computer by a communications medium, such as through a computer or telephone network, including wireless communications. The latter embodiment specifically includes information downloaded from the Internet and other networks~~. Such ~~signal-bearing~~ computer-readable storage media, when carrying computer-readable instructions that direct the functions of the present invention, represent embodiments of the present invention.

IN THE CLAIMS:

1 – 5. (Cancelled).

6. (***Currently Amended***) A computer-implemented method for managing execution of a query against data in one or more database tables, comprising:

receiving a query to be executed against the one or more database tables;

determining whether the query requires relating a first column and a second column, each having associated units metadata, the first and second columns being included in the one or more database tables;

determining, from the associated units metadata, a first measurement unit for the first column and a second measurement unit for the second column, wherein the first measurement unit specifies a first unit of measure for data values in the first column and the second measurement unit specifies a second unit of measure for data values in the second column;

determining that the data values quantified using the first measurement unit can be converted into equivalent data values quantified using the second measurement unit;

determining a conversion algorithm for converting the data values;

using the conversion algorithm to convert[[ing]] the data values in the first column quantified using the first measurement unit into the equivalent data values when ~~measured according~~ quantified using to the second measurement unit; ~~and~~

executing the query against the converted data values in the first column and the data values in the second column; and

receiving a query result for the executed query, wherein the query result includes data values measured using at least one of the first and second measurement units.

7. (***Cancelled***)

8. (***Cancelled***)

9. (Original) The method of claim 6, wherein the query is a SQL query having a JOIN statement specifying the first and second columns.

10. (Original) The method of claim 6, wherein the query is a SQL query having a WHERE clause specifying the first and second columns.

11. (***Currently Amended***) The method of claim 6, wherein the query requests data in a third measurement unit, the method further comprising:

~~receiving a query result for the query, the query result including data values measured using one of the first and second measurement units; and~~

converting the data returned with the query result into data values measured using the third measurement unit.

12. (Cancelled)

13. (***Currently Amended***) A computer-implemented method for managing execution of a query against data in a database table, comprising:

receiving a query to be executed against the one or more database tables;

determining whether the query includes a result field associated with a first measurement unit, wherein the first measurement unit specifies a first unit of measure for the result field included the query;

determining whether a column in the database table corresponding to the result field has units metadata indicating a second measurement unit, wherein the second measurement unit specifies a second unit of measure for data values stored in the column; ~~and~~

if so, determining a conversion algorithm for converting data values obtained as a query result for the executed query, wherein the data values of the query result are measured using the second measurement unit;

converting the data values obtained as [[a]] the query result with data values measured using the second measurement unit into equivalent data values measured using the first measurement unit; and

outputting the equivalent data values.

14. (***Cancelled***)

15. (***Currently Amended***) A computer-implemented method for executing a query against data in a database table, comprising:

determining whether the query includes a result field associated with a first measurement unit, wherein the first measurement unit specifies a first unit of measure for the result field included the query;

determining whether a column in the database table corresponding to the result field has an index specifying data values are stored in the column according to a second measurement unit, wherein the second measurement unit specifies a second unit of measure;

if so, modifying the result field having the first measurement unit into a result field having the second measurement unit of the index; ~~and~~

executing the query using the modified index;

receiving a query result for the executed query, the query result including data values measured using the second measurement unit;

determining a conversion algorithm for converting the data values;

using the conversion algorithm to convert the data values returned with the query result into equivalent data values when measured using the first measurement unit; and

outputting the equivalent data values.

16. (***Cancelled***)

17. (***Cancelled***)

18. (Original) The method of claim 15, further comprising:

if it is determined that the column has two or more indexes:

selecting, as the associated index, an index from the two or more indexes requiring less memory space.

19. (Original) The method of claim 15, further comprising:

if it is determined that the column has two or more indexes:

selecting, as the associated index, an index from the two or more indexes which is most often used.

20. – 24. (Cancelled)

25. (***Currently Amended***) A computer readable storage medium containing a program which, when executed, performs a process for managing execution of a query against data in one or more database tables, the process comprising:

receiving a query to be executed against the one or more database tables;

determining whether the query requires relating a first column and a second column, each having associated units metadata, the first and second columns being included in the one or more database tables;

determining, from the associated units metadata, a first measurement unit for the first column and a second measurement unit for the second column, wherein the first measurement unit specifies a first unit of measure for data

values in the first column and the second measurement unit specifies a second unit of measure for data values in the second column;

determining that the data values quantified using the first measurement unit can be converted into equivalent data values quantified using the second measurement unit;

determining a conversion algorithm for converting the data values;

using the conversion algorithm to convert~~ing~~ the data values in the first column the first measurement unit into equivalent data values when measured according to the second measurement unit; ~~and~~

executing the query against the converted data values in the first column and the data values in the second column; and

receiving a query result for the executed query, wherein the query result includes data values measured using at least one of the first and second measurement units.

26. (***Cancelled***)

27. (***Cancelled***)

28. (Previously Presented) The computer readable storage medium of claim 25, wherein the query is a SQL query having a JOIN statement specifying the first and second columns.

29. (Previously Presented) The computer readable storage medium of claim 25, wherein the query is a SQL query having a WHERE clause specifying the first and second columns.

30. (***Currently Amended***) The computer readable storage medium of claim 25, wherein the query requests data in a third measurement unit, the method further comprising:

~~receiving a query result for the query, the query result including data values measured using one of the first and second measurement units; and~~

converting the data returned with the query result into data values measured using the third measurement unit.

31. (Cancelled)

32. (***Currently Amended***) A computer readable storage medium containing a program which, when executed, performs a process for managing execution of a query against data in a database table, the process comprising:

receiving a query to be executed against the one or more database tables;

determining whether the query includes a result field associated with a first measurement unit, wherein the first measurement unit specifies a first unit of measure for the result field included the query;

determining whether a column in the database table corresponding to the result field has units metadata indicating a second measurement unit, wherein

the second measurement unit specifies a second unit of measure for data values stored in the column; and

if so, determining a conversion algorithm for converting data values obtained as a query result for the executed query, wherein the data values of the query result are measured using the second measurement unit;

converting the data values obtained as [[a]] the query result with data values measured using the second measurement unit into equivalent data values measured using the first measurement unit; and

outputting the equivalent data values.

33. (***Cancelled***)

34. (***Currently Amended***) A computer readable storage medium containing a program which, when executed, performs a process for executing a query against data in a database table, the process comprising:

determining whether the query includes a result field associated with a first measurement unit, wherein the first measurement unit specifies a first unit of measure for the result field included the query;

determining whether a column in the database table corresponding to the result field has an index specifying data values are stored in the column according to a second measurement unit, wherein the second measurement unit specifies a second unit of measure;

if so, modifying the result field having the first measurement unit into a result field having the second measurement unit of the index; ~~and~~

executing the query using the modified index;

receiving a query result for the executed query, the query result including data values measured using the second measurement unit;

determining a conversion algorithm to convert the data values returned with the query result;

using the conversion algorithm to convert the data values returned with the query result into equivalent data values when measured using the first measurement unit; and

outputting the equivalent data values.

35. (***Cancelled***)

36. (***Cancelled***)

37. (Previously Presented) The computer readable storage medium of claim 34, wherein the process further comprises:

if it is determined that the column has two or more indexes:

selecting, as the associated index, an index from the two or more indexes requiring less memory space.

38. (Previously Presented) The computer readable storage medium of claim 34, wherein the process further comprises:

if it is determined that the column has two or more indexes:

selecting, as the associated index, an index from the two or more indexes which is most often used.

39. (Cancelled)

40. (***Currently Amended***) A data processing system comprising a processor and further[[,]] comprising:

at least one database having one or more database tables; and

a units metadata manager for managing execution of a query against data in the one or more database tables, the units metadata manager being configured for:

receiving a query to be executed against the one or more database tables;

determining whether the query requires relating a first column and a second column, each having associated units metadata, the first and second columns being included in the one or more database tables;

determining, from the associated units metadata, a first measurement unit for the first column and a second measurement unit for the second column, wherein the first measurement unit specifies a first unit of measure for data values in the first column and the second measurement unit specifies a second unit of measure for data values in the second column;

determining that the data values quantified using the first measurement unit can be converted into equivalent data values quantified using the second measurement unit;

determining a conversion algorithm for converting the data values;

using the conversion algorithm to convert[[ing]] the data values contained in the first column having the first measurement unit into the equivalent data values ~~having~~ quantified using the second measurement unit; and

executing the query against the converted data values in the first column and the data values in the second column; and

receiving a query result for the executed query, wherein the query result includes data values measured using at least one of the first and second measurement units.

41. (***Currently Amended***) A data processing system comprising a processor and further[[,]] comprising:

at least one database having a database table; and

a units metadata manager for managing execution of a query against data in the database table, the units metadata manager being configured for:

determining whether the query includes a result field associated with a first measurement unit, wherein the first measurement unit specifies a first unit of measure for the result field included the query;

determining whether a column in the database table corresponding to the result field has units metadata indicating a second measurement

unit, wherein the second measurement unit specifies a second unit of measure for data values stored in the column; ~~and~~

if so, determining a conversion algorithm for converting data values obtained as a query result for the executed query, wherein the data values of the query result are measured using the second measurement unit;

converting the data values obtained as [[a]] the query result with data values measured using the second measurement unit into equivalent data values measured using the first measurement unit; and

outputting the equivalent data values.

42. (***Currently Amended***) A data processing system comprising a processor and further[[,]] comprising:

at least one database having a database table; and

a units metadata manager for executing a query against data in the database table, the units metadata manager being configured for:

receiving a query to be executed against the one or more database tables;

determining whether the query includes a result field associated with a first measurement unit, wherein the first measurement unit specifies a first unit of measure for the result field included the query;

determining whether a column in the database table corresponding to the result field has an index specifying data values are stored in the

column according to a second measurement unit, wherein the second measurement unit specifies a second unit of measure;

if so, modifying the result field having the first measurement unit into a result field having the second measurement unit of the index; ~~and~~

executing the query using the modified index;

receiving a query result for the executed query, the query result including data values measured using the second measurement unit;

determining a conversion algorithm for converting the data values returned with the query result;

using the conversion algorithm to convert the data values returned with the query result into equivalent data values when measured using the first measurement unit; and

outputting the equivalent data values.

Pursuant to MPEP 606.01 the Title is changed to read

--METHOD FOR DETERMINING CONVERSION ALGORITHM FOR CONVERTING THE DATA VALUES IN THE FIRST COLUMN QUANTIFIED USING THE FIRST MEASUREMENT UNIT INTO THE EQUIVALENT DATA VALUES WHEN QUANTIFIED USING TO THE SECOND MEASUREMENT UNIT, EXECUTING QUERY AGAINST CONVERTED DATA, WHERE THE QUERY RESULT INCLUDES DATA VALUES MEASURED USING AT LEAST ONE OF THE FIRST AND SECOND MEASUREMENT UNITS--

Reasons for allowance

The following is an examiner's statement of reasons for indication of allowable subject matter: The prior art of record either along or in combination fails to anticipate or render obvious, the recited feature *"determining a conversion algorithm for converting the data values; using the conversion algorithm to convert the data values in the first column quantified using the first measurement unit into the equivalent data values when quantified using to the second measurement unit;*

executing the query against the converted data values in the first column and the data values in the second column; and

receiving a query result for the executed query, wherein the query result includes data values measured using at least one of the first and second measurement units", in claims 6,25,40;

"*receiving a query result for the executed query, the query result including data values measured using the second measurement unit;*

determining a conversion algorithm for converting the data values; using the conversion algorithm to convert the data values returned with the query result into equivalent data values when measured using the first measurement unit", in claims 15,34,42;

"determining a conversion algorithm for converting data values obtained as a query result for the executed query, wherein the data values of the query result are measured using the second measurement unit;

converting the data values obtained as the query result with data values measured using the second measurement unit into equivalent data values measured using the first measurement unit", in claims 13,32,41.

These features, together with the other limitations of the independent claims are novel and non-obvious over the prior art of record. The dependent claims 9-11,18-19,28-30,37-38 being definite, enabled by the specification, and further limiting to the independent claims is also allowable.

The newly cited reference WO 2006/020343 issued to Das, Souripriya et al. is directed to Ontology based semantic matching in a relational database system, more specifically, database queries that include a semantic matching operator are formed which identify the ontology data. When executed, the specific new SQL operator[s] determines whether the two input terms (term 1 and term 2) are related by the specified input relationship type. Das, Souripriya also suggests new ancillary operators are employed to determine additional measures for the matched rows that are identified, i.e., shortest distance and shortest path, respectively. These ancillary operators identify the terms that are most closely matched in the specified ontology. These ancillary operators return distance measures and path respectively for all matching terms identified in the ontology [see Abstract, page 4, 0012-0015].

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Srirama Channavajjala whose telephone number is 571-272-4108. The examiner can normally be reached on Monday-Friday from 8:00 AM to 5:30 PM Eastern Time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alam, Hosain, T, can be reached on (571) 272-3978. The fax phone numbers for the organization where the application or proceeding is assigned is 571-273-8300 Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free)

sc
Patent Examiner.
March 13, 2007.

SRIRAMA CHANNAVAJJALA
PRIMARY EXAMINER